REMARKS

Claims 1-11 are pending in this application. By this Response, claim 1 is amended to recite, in the preamble, that the method is implemented "on a computer system." Claim 10 is amended to recite a "computer" system. Support for these amendments may be found at least at page 7, lines 3-4. This amendment (1) does not raise any new issues requiring further search or consideration, (2) reduces the issues on appeal, as discussed hereafter, and (3) places the claims in better condition for appeal should an appeal be necessary. Accordingly, entry of the amendments to claims 1 and 10 is proper. Reconsideration of the claims is respectfully requested in view of the above amendment and the following remarks.

An amendment to the specification is made to remove an extra space before a comma in accordance with the requirements of the Final Office Action. No new matter has been added by the amendment to the specification.

I.   Telephone Interview

Applicants thank Examiner Stevens and Primary Examiner Shaw for the courtesies extended to Applicants' representative during the March 14, 2005 telephone interview. During the telephone interview, the rejections under 35 U.S.C. 112, second paragraph and 35 U.S.C. 101 were discussed. The Examiners stated that they did not wish to discuss the art rejections because their position was finalized in the Final Office Action.

With regard to the rejections under 35 U.S.C. 112, second paragraph, Applicants asserted that one of ordinary skill in the art is well aware of what a "computer readable" or "computer useable" medium is and what constitutes a computer readable or computer useable medium. In response, the Examiners merely stated that the specification must include a definition of these terms in order for the use of these terms in the claims to be definite. The Examiners stated that the concern is with regard to whether such terms include transmission or carrier wave media.

Applicants' representative responded that such a position completely disregards the level of one of ordinary skill in the art and instead examines the claims in a vacuum. This is clearly an erroneous approach to examination since it is stated in many places within the MPEP that the examiner must examine the application in light of one of ordinary skill in the art. For example, Applicants have not defined what a "computer" is, what a "table" is, or what a "cell" of a spreadsheet is, yet one of ordinary skill in the art would understand the usage of these terms and the scope associated with these terms even though the Applicants have not presented a formal definition of these terms in the specification. The Examiner has not asserted that these terms are indefinite because one of ordinary skill in the art understands what these terms mean and what their scope is. Similarly, the terms "computer readable medium" and "computer useable medium" are well known to those of ordinary skill in the art. The MPEP even uses such terms as exemplary of claim language directed to statutory subject matter.

Whether or not the terms "computer readable medium" or "computer useable medium" encompasses carrier waves or transmission medium is irrelevant to a determination as to whether the terms are definite or not. Such considerations are directed to the breadth of the claim language, not to the definiteness of the claim language. Moreover, nowhere in the MPEP is there any statement that claim language directed to carrier waves or transmission medium is indefinite and defines non-statutory subject matter.

The Examiners stated that such language that encompasses carrier waves or transmission medium would be indefinite because carrier waves and transmission media are not physical elements. Applicants respectfully disagree. Carrier waves and transmission media are physical media. While they are not immediately perceivable by the human eye, they are physical. Moreover, there is no basis in the MPEP for holding terminology indefinite for lack of physicality. In addition, there is no statement anywhere in the MPEP to the effect that carrier waves or transmission media are non-statutory. To the contrary, as set forth herein below, the MPEP clearly states that functional descriptive material in a computer readable media, which would encompass carrier waves and transmission media, is statutory.

The Examiners essentially made the same arguments when addressing the 35 U.S.C. 101 rejection with regard to the computer readable and computer useable medium claims, e.g., claim 11. Moreover, when pressed to support such a position, the Examiners merely stated that the MPEP has been changed to not include the section, i.e. section 2106(IV)(B)(1), stating that computer readable medium are statutory and that the case law was changing. As a result, the Examiners stated that they were going to stand by their rejection. Such a position is improper because (1) the MPEP has not been changed and the applicable case law has not changed; and (2) it makes Applicants have to respond to supposed case law and supposed MPEP text that is not yet in existence.

Applicants' representative has checked his own MPEP and the MPEP available from the Patent Office website and has verified that MPEP section 2106(IV)(B)(1) has not been changed as of the time of the Final Office Action, the telephone interview, and the filing of this Response, to eliminate the portion stating that functional descriptive material in a computer readable medium is statutory. Nor are Applicants aware of any case law that overturns the holding in *In re Lowry*, referenced below and used as a basis in the MPEP. Thus, despite the Examiners' assurances that "things are changing," they have not in fact changed and the Examiners must examine the claims based on the status of the MPEP and case law at the time of the examination, not what the MPEP and case law might say in the future. If the Examiners have a basis for their position, they must clearly state what it is with particularity, rather than relying on supposed changes that may or may not be made in the future.

The substance of the telephone interview with regard to other issues discussed is summarized in the following remarks.

II.   Amendments to Claims

The amendments to claims 1 and 10 are submitted in order to reduce the issues pending in the prosecution of this application. While Applicants disagree with the Examiner's position with regard to the 101 issues raised in the Final Office Action, in an effort to reduce issues, Applicants have amended claim 1 to recite "a method, implemented on a computer system" as suggested by Examiner Shaw during the

telephone interview. Moreover, in light of the Examiners' statements during the telephone interview, while Applicants do not believe a "system" claim reciting "means for" can reasonably be interpreted as a "software system," especially when the specification clearly illustrates a computer system, Applicants have amended claim 10 to recite a "computer system." Such amendments do not raise any new issues requiring further search or consideration since the Examiners stated that they clearly understood these claims to be directed to a computer implemented method and a computer system. Moreover, the specification clearly illustrates the method as being implemented in a computer system and draws a distinction between the present invention and hand written spreadsheets (see the Background of the Invention). Moreover, the art cited by the Examiner in the rejections of the claims are directed to computer implemented spreadsheets. Thus, these amendments do not raise any new issues requiring further search or consideration, and actually simplifies issues for appeal should an appeal be necessary. In other words, if the Examiner truly believes that the art cited in the rejections teaches every aspect of the presently claimed invention, then there would not be any need to change his stance simply because Applicants have amended the claims to recite a method "implemented on a computer system" or a "computer system."

III.   Objections to the Specification

The Final Office Action objects to the specification for certain informalities. Specifically, the Final Office Action objects to the specification for having an extra space before a comma in the paragraph appearing at page 3, lines 18-30 and also states that the terms "version" and "version groups" on page 4 of the specification need associated definitions. By this Response, the paragraph appearing on page 3, lines 18-30 is amended to remove the extra space before the comma.

With regard to the use of the terms "version" and "version groups" on page 4 of the specification, these terms are used to describe the prior art and one of ordinary skill in the art is well aware of what is meant by the terms "version" and "version groups" in relation to spreadsheets. It is not necessary for Applicants to enable the prior art or define terms that are used in the prior art. Moreover, the remaining description on page

4, line 24 to page 5, line 2 provides sufficient explanation of "versions" to allow one of ordinary skill in the art to determine how the terms "version" and "version groups" are used to describe the prior art. Therefore, it is not necessary for Applicants to include a definition of these terms in the Background Art section of the present application.

IV.   Rejection of Claim 11 under 35 U.S.C. 112, Second Paragraph

The Final Office Action rejects claim 11 under 35 U.S.C. 112, second paragraph alleging that the term "computer-useable medium" is indefinite because it is not defined in the specification. This rejection is respectfully traversed for the reasons stated above in Applicants' summary of the telephone interview, and the reasons set forth hereafter.

Applicants respectfully submit that the terms in the claims must be examined in light of the level of one of ordinary skill in the art and are not to be examined in a vacuum. Those of ordinary skill in the art are well aware of what a "computer-useable medium" is and it is not necessary to provide a specific definition of this term in the specification for this term to be definite. As is known to those of ordinary skill in the art, a computer-useable medium is any medium that is capable of carrying data and/or instructions that are readable by a computing device. Examples of such computer-useable medium include floppy disks, hard disks, magnetic tape, CD-ROMs, DVD-ROMs, carrier waves, transmission media, and the like. While this term may be broad, it is definite since one of ordinary skill in the art can clearly determine what types of media fall within the scope of the term "computer-useable medium."

In view of the above, Applicants respectfully submit that claim 11 is not indefinite. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 11 under 35 U.S.C. 112, second paragraph.

V.   Rejection of Claims 1-11 under 35 U.S.C. 101

The Final Office Action rejects claims 1-11 under 35 U.S.C. 101 alleging that the claims are directed to non-statutory subject matter. This rejection is respectfully

traversed for the reasons stated above in the summary of the telephone interview and in the remarks hereafter.

With regard to claim 1, the Final Office Action alleges that claim 1 is directed to non-statutory subject matter because the "language of this claim raises a question as to whether this claim is directed merely to an abstract idea that is not tied to a technological art, environmental machine, which would result in a practical application producing a concrete, useful and tangible result to form the basis for statutory subject matter under 35 USC 101." As argued in the Response to the First Office Action, the presently claimed invention provides a concrete, useful and tangible result and, in accordance with the MPEP and applicable case law, it is not necessary to recite physical limitations that name technological apparatus in order for the method claims of the application to recite statutory subject matter since the claims are not directed solely to an abstract idea or to manipulation of abstract ideas.

However, in an effort to reduce issues currently pending in the present application, claim 1 is amended by this Response to recite "A method, *implemented on a computer system...*" Thus, Applicants respectfully submit that since claim 1, and the other method claims, now clearly recite that the method is implemented on a computer system, the method cannot simply be performed using pencil and paper as alleged in the Final Office Action and instead are performed in a computer system. Therefore, the method claims are clearly directed to the technological arts and do not raise any "question as to whether this claim is directed merely to an abstract idea."

With regard to claim 10, the Final Office Action alleges that this claim recites a computer program *per se* and thus raises a question as to whether it is directed to statutory subject matter. Claim 10 recites a "system" and has as elements "means for" performing a plurality of operations. It is not understood how a "system" can be a "computer program *per se.*" To the contrary, claim 10 clearly is directed to a physical system that has elements that are capable of performing the operations specifically set forth in the claim. Figure 1A of the present application provides one example of such a system. Since claim 10 is directed to a system, it is within the technological arts and thus, is not directed to non-statutory subject matter.

Regarding claim 11, the Final Office Action alleges that this claim is directed to a "computer usable medium" which may encompass an intangible embodiment (such as a carrier wave or transmission media). Applicants respectfully submit that computer programs embodied in computer usable or computer readable medium have been held to be statutory and thus, the Final Office Action is in error. As stated in the MPEP at section 2106 (IV)(B)(1), "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized." As an example, in *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) a claim to a data structure stored on a computer readable medium that increases computer efficiency was held to be statutory.

In the present case, claim 11 recites a computer-usable medium comprising computer readable instructions adapted for defining one or a plurality of Boolean variables in a table, whereby the Boolean variables are managed, referencing a Boolean variable in a cell of the electronic spreadsheet, and determining the content of the cell or plurality of cells, wherein each of the Boolean variables can be set as "True" or "False," and impact the content of a cell within an electronic spreadsheet. Thus, the present invention as recited in claim 11 is directed to a computer usable medium comprising computer instructions which permit Boolean variables to be defined and managed in a table, which are referenced in cells of an electronic spreadsheet, and which affect the content of cells within the electronic spreadsheet. Moreover, the computer usable medium includes instructions for determining the content of the cells in the electronic spreadsheet. This is clearly directed to functional descriptive material embodied in a computer usable medium and thus, is statutory in accordance with the MPEP and the applicable case law.

In view of the above, Applicants respectfully submit that all of the claims are directed to statutory subject matter. Accordingly, Applicants request withdrawal of the rejection of claims 1-11 under 35 U.S.C. 101.

VI.   Rejection of Claims 1-11 under 35 U.S.C. 103(a)

The Final Office Action rejects claims 1-11 under 35 U.S.C. 103(a) as being allegedly unpatentable over Kelly, Using Microsoft Excel 97, 3rd Edition, Que Corp., Indianapolis, IN, 1998 in view of Deitel et al., C++: How to Program, 2nd Edition, Prentice Hall, Upper Saddle River, NJ, 1994, and further in view of Microsoft Computer Dictionary, 4th Edition, Microsoft Press, Redmond, WA, 1999. This rejection is respectfully traversed.

Claim 1, which is representative of the other rejected independent claims 10 and 11 with regard to similarly recited subject matter, reads as follows:

> 1.   A method, in a data processing system, for processing user defined Boolean variables in a multi dimensional spreadsheet (200) comprising a plurality of cells identified by a cell address along each dimension, said method comprising the steps of:
>   defining one or a plurality of Boolean variables in a table (400), whereby said Boolean variables are managed;
>   referencing said one or plurality of Boolean variables in one or a plurality of cells; and
>   determining the content of said cell or plurality of cells;
>   wherein each of said Boolean variables can be set as "True" or "False," and impact the content of a cell within an electronic spreadsheet.

Applicants respectfully submit that neither Kelly, Deitel nor the Microsoft Computer Dictionary teach or suggest to define Boolean variables in a table such that the Boolean variables can be set as "True" or "False," and impact the content of a cell within an electronic spreadsheet. Moreover, none of the cited references teach referencing one or a plurality of Boolean variables in one or a plurality of cells of an electronic spreadsheet.

Kelly teaches, on pages 174-175, the use of an "IF-THEN-OTHERWISE" function that is used to determine values for cells in a spreadsheet. The "IF-THEN-OTHERWISE" function operates in the following manner: IF a statement is true, THEN return a first value, OTHERWISE return a second value. This function in Kelly essentially states that if certain criteria are met, i.e. the statement is true, then a first value is returned, otherwise if the criteria are not met, then a second value is returned. Thus, the IF-THEN-OTHERWISE function of Kelly is merely a function to determine whether

a cell will be given one value or another based on whether a condition is met. The IF-THEN-OTHERWISE function of Kelly is not a Boolean variable defined in a table.

In fact, the IF-THEN-OTHEWISE function of Kelly is not a variable at all. It is a function that operates based on values of other variables included in the function. This is evident in that Kelly states that the IF-THEN-OTHERWISE function may be nested within other functions. Variables are not nested within other variables and thus, the function of Kelly is not a Boolean variable.

Furthermore, one cannot simply "set" the values of the IF-THEN-OTHERWISE function of Kelly to "True" or "False." To the contrary, the IF-THEN-OTHERWISE function of Kelly must evaluate the criteria set forth in the IF-THEN-OTHERWISE function to determine if the criteria are met or not. If met, some first value is returned. If not met, some second value is returned. This is clear from the example shown in Figure 10.23 of Kelly where the IF-THEN-OTHERWISE function takes the form of "=IF(B10>90, "A", IF(B10>80),"B", IF(B10>70,"C", IF(B10>60,'D',"F")))." One cannot simply set the value of this function to "A," "B," "C," "D" or any other value without deleting the function. This is because once the function is associated with the cell, it must be evaluated to determine the value of the cell. One cannot merely make the function have a certain value without modifying the variables within the function so as to achieve the desired value once the function is evaluated. Thus, the IF-THEN-OTHERWISE function of Kelly is not a Boolean variable that is defined and managed in a table, that is referenced in a cell of a spreadsheet, and which can be set to either a value of "True" or "False."

Thus, despite the allegations made in the Final Office Action, Kelly actually does not teach or even suggest defining one or a plurality of Boolean variables in a table, whereby the Boolean variables are managed. Since Kelly does not teach or suggest defining one or a plurality of Boolean variables in a table, Kelly also does not teach or suggest referencing such Boolean variables in cells of an electronic spreadsheet. Again, while Kelly teaches the use of an IF-THEN-OTHERWISE function that may be associated with cells of a spreadsheet, this function is not a variable, let alone a Boolean variable that is defined and managed in a table.

The Final Office Action admits that Kelly does not teach Boolean variables being defined and managed in a table. However, the Final Office Action alleges that this feature is taught by Deitel at pages 258-259 and in Figure 4.22 where Deitel teaches multidimensional arrays of integers and at page 109 where Deitel allegedly teaches representing Booleans as integers. The Final Office Action further states that the Microsoft Computer Dictionary teaches the well known use of arrays to implement tables.

At pages 258-259, Deitel teaches a way to initialize double scripted arrays in declarations in C++. While Deitel teaches a way to initialize a multidimensional array using C++, Deitel does not teach anything regarding defining Boolean variables in a table, managing those Boolean variables using the table, referencing the Boolean variables in cells of an electronic spreadsheet, or that such Boolean variables impact the content of a cell of an electronic spreadsheet. All that is taught in this section of Deitel is that an array may be initialized in C++ using the example shown in Figure 4.22.

With regard to page 109, Deitel teaches that problems occur using the operators "==" and "=" because any expression that produces a value can be used in the decision portion of any control structure. If the value is 0, it is treated as false, and if the value is nonzero, it is treated as true. Therefore, if the wrong operator is used, the functionality may be very different from what is intended. There is no teaching or suggestion in this section of Deitel, or any other section of Deitel, to define and manage Boolean variables in a table, reference these Boolean variables in cells of an electronic spreadsheet, or that such Boolean variables may impact the content of a cell in an electronic spreadsheet. To the contrary, all that is taught in this section of Deitel is that problems occur using the operators "==" and "=".

The Microsoft Computer Dictionary does not provide any additional teaching that would make the features of the presently claimed invention obvious in view of the teachings of Kelly and Deitel discussed above. Merely stating that arrays can be used to implement tables does not provide any teaching or suggestion to define Boolean variables in a table such that they may be managed and referenced in cells of an electronic spreadsheet and impact the content of cells in the electronic spreadsheet.

In view of the above, Applicants respectfully submit that neither Kelly, Deitel, nor the Microsoft Computer Dictionary, either alone or in combination, teach or suggest the features of independent claim 1 or similar features found in claims 10 and 11. At least by virtue of their dependency on claim 1, the alleged combination of references also does not teach or suggest the features of dependent claims 2-9. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-11 under 35 U.S.C. 103(a).

In addition to the above, since none of the cited references teach or suggest defining Boolean variables in a table, managing such Boolean variables via the table, referencing the Boolean variables in cells of an electronic spreadsheet, or that such Boolean variables may impact the content of a cell in the electronic spreadsheet, the alleged combination of references cannot teach or suggest the specific features recited in dependent claims 2-9 which refer to such features. For example, the alleged combination of references cannot teach or suggest that defining one or a plurality of Boolean variables in a table includes, for each defined Boolean variable, assigning a name and storing in the table the name, selecting a status value, and storing in the table the status value, as recited in claim 2. To the contrary, the IF-THEN-OTHERWISE function of Kelly, which the Final Office Action equates with a Boolean variable, does not have any name or status value, and certainly does not teach that a table is utilized to store such a name and status value.
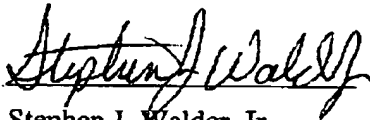
Similarly, with claim 3, the alleged combination of references does not teach or suggest updating in the table the status value of the one or plurality of Boolean variables. Other similar types of features recited in claims 4-9 are also not taught by the alleged combination of references because the references do not even teach the basic elements of these claims recited in the independent claims from which they depend. As a result, the references cannot teach or suggest the specific features recited in the dependent claims.

VII.   Conclusion

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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